

Invenergy Perspective on Resource Adequacy in Illinois



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Invenergy Overview

- Founded in 2001, Invenergy develops, owns, and operates wind, solar, and natural gas power generation facilities in North America and Europe.
- Invenergy is the largest independent wind power company in North America and is recognized as a top tier wind developer in the United States and Canada.
- Invenergy's executive management team has nearly thirty years of successful project development in the power generation sector.
- ➤ Invenergy is responsible for developing and constructing over 7,000 MWs of utility-scale renewable and natural gas-fueled power generation facilities.
- Invenergy is headquartered in Chicago and employs nearly 500 people globally.



Invenergy Illinois Operations

- > Illinois is home to Invenergy's Corporate Headquarters and Control Center
- ➤ Natural Gas Generation
 - ➤ Under Construction: 1 Plant totaling 575 MW
- ➤ Wind Generation
 - Owned and Operating: 6 Plants totaling 611 MW
 - ➤ Build Transfer: 2 Plants totaling 231 MW
- ➤ Solar Generation
 - Owned and Operating: 1 Plant totaling 20 MW
- > Battery Operations
 - Owned and Operating: 1 Plant totaling 1.5 MW





Project Finance Perspective

- Privately held company that primarily utilizes project financing to bring projects to market.
- Unique perspective on subject due to nature of project financing.
- Financial institutions provide financing for projects based on fundamental drivers and analytic modeling.
- There is no rational capacity price signal within the MISO market to support project financing of a new generating facility.



Project Finance Perspective

- > PJM provides a one year price signal, three years forward in time.
- Historical clearing prices for PJM's capacity market have been volatile.
- > PJM's capacity rules continue to be changed and modified.
- To successfully and efficiently project finance a new generator, a reasonably predicable ten year cash flow or longer would be required.
- Power purchase agreements (PPA) could facilitate the financing of new generation facilities, however such opportunities are non-existent in Illinois.



Resource Adequacy – Short Term Outlook

- Resource adequacy, in the short term, continues to be oversupplied.
- Uncertainty of future demand, effects of demand response and energy efficiency.
- The majority of the MISO market is supplied by vertically integrated utilities that have the ability to recover operating shortfalls through rate recovery.
- ➤ PJM RPM price "whipsaw" effect also creates a barrier to utilizing project finance to bring new resources to market. New entrants have a challenge when projecting clearing price ten plus years into the future. This typically leads to financial institutions discounting the clearing price during the financing process.
- Low capacity prices may be acceptable in the short term, but discourages long term investment in more efficient, cost effective resources that could lower costs to consumers over the long term.



Resource Adequacy – Long Term Outlook

- Long term, rational planning for resources could be achieved by creating a construct that allows existing resources to recover missing money separate from the long term capacity strips needed to allow new resources.
- This could be similar to how the financial transmission rights market works today with multi-period auctions.
- A one year capacity mechanism may be suitable for an existing resource and that short term signal would allow retirement decisions to be made.
- New entrants could finance projects due to mid to long-term pricing certainty and overcome the competitive advantage that incumbents benefit from.



Follow up

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